Letter 9

Jon Sherve
05/04/01 09:23 AM

To: Pam Jarnecke/BMFO/NV/BLM/DOI@BLM
cc:
Subject: Phoenix draft EIS

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05/03/00 03:15 PM

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Subject: Phoenix draft EIS

Letter 9 Continued

John, here is a few comments on the draft EIS.

9-1 1) Table 2-2 (pgs 2-17, 2-18, 2-19). When I add up the amount of waste material going to the rehandle stockpile my numbers add up to 60,498. However, the table reflects 60,750 will exist in the stockpile. Am I missing something or will they be short tonnage for placement?

9-2 2)How will BLM ensure the proposed volumes are stockpiled for future use as suggested in this table?

9-3 3) Page 2-24 "proposed mining of the ore bodies would expose transitional and sulfide bearing ore...". Was the material to be placed on the heap leach pad evaluated to determine if it has the potential to generate acid?

9-4 4) Page 2-44, 2-45. "BMG may propose other closure methods such as capping". Experience has shown that most heap leach pads will require some kind of cap or cover, after rinsing/chemical stabilization, to reduce infiltration and long term heap drain down. I recommend that the plan of operations/reclamation plan and cost estimate should be modified to include costs for the placement of a cover or cap.

9-5 5) Page 2-23 2-24 "Potentially acid-generating waste rock placed beneath the post mining water table would be amended ...." Will BLM require bonding to ensure amendments are included as appropriate?

9-6 6) Page 2-43 "Backfill would be placed in the open pits to an elevation above the projected post mining ground water level .... and limit the potential for producing acidic solutions." How will the BLM ensure this is completed? I recommend that the BLM consider a modification to the plan of operations/reclamation plan to include costs and bonding, prior to the operator mining below the ground water level.

9-7 7) Page 2-43 Tailings Facilities Reclamation. The DEIS should address the management of potential fugitive dust as tailing facility dries out during closure and reclamation. I recommend that the BLM consider a modification to the plan of operations/reclamation plan to include costs associated with this activity.

9-8 8) Page 2-45 Heap leach facility reclamation. "Laboratory testing and actual flushing ... has demonstrated it requires approximately one ton of fresh water per ton of ore to adequately rinse leach pad ore." Experience has shown most operations do not use a fresh water rinse due to pond storage capacities. Most operations use recirculated water with the addition of fresh make up water. This practice will lengthen the time required for rinsing and can significantly affect the reclamation costs. I recommend that the BLM consider a modification to the plan of operations/reclamation plan to require testing by the operator to determine actual rinsing time frames and associated costs.

9-9 9) page 2-47 Monitoring of the reclaimed site. What is the existing vegetative cover at this facility? I recommend that the BLM consider a modification to the plan of operations/reclamation plan to identify the site-specific release criteria.

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9-1 The existing amount of waste rock in the stockpile area plus the amount to be added during the Phoenix Project would be adequate for the required pit backfill. Additionally, other nearby waste rock material also could make up any potential deficiency experienced during mining. Table 2-2 was not intended to be viewed from a balance perspective with respect to this stockpile material.

9-2 The BLM will ensure adequate proposed volumes of stockpiled waste rock are available to backfill the wet pits by data gathered during mining operations and concurrent reclamation activities. If necessary, additional sources of material also would be available for rehandle such as those contained in existing or proposed surface-deposited waste rock facilities.

9-3 In general, BMG proposes to beneficiate transitional and sulfide ores at the milling facility and oxide ores at the heap leach facility. All materials would be characterized for their acid-generating potential during the mining or closure activities. Also note that process solutions for the heap leach facility would contain added lime such that the potential to generate acid is reduced or eliminated.

9-4 Section 2.4.21.8 of the EIS describes that, at present, the heap leach facility reclamation plan consists of rinsing followed by recontouring and capping with 6 inches of cover material. The last sentence of the section refers to a final closure plan that must be completed 2 years prior to the heap leach facility decommissioning, as required by state permit and regulation. Final closure would be specified in that plan based upon monitoring of concurrent reclamation and any additional data generated during the operations.

This rinsing and capping approach is described on page 6-20 of the Phoenix Project Plan of Operations (Brown and Caldwell 2000h). Reclamation cost estimates submitted to both the BLM and the NDEP (Bureau of Mining Regulation and Reclamation) in March 2001 contain costs for placement of this cover.

9-5 The BLM would require bonding for amending waste rock that would be placed as pit backfill beneath the anticipated postmining ground water rebound elevation.

9-6 The Plan of Operations (Brown and Caldwell 2000h) and the Waste Rock Management Plan (Brown and Caldwell 2000d) propose placement of waste rock to the highest elevation of anticipated ground water rebound, with additional material to account for uncertainty in the predictions. The BLM would ensure that no pit lakes form in the backfilled pits by data gathered during postreclamation water resources monitoring described in Section 6.0 of the Plan of Operations. Monitoring would consist of monitoring wells constructed in the backfilled material that allow measurement of rebounded ground water elevations in each pit. Monitoring costs for a 5-year postreclamation period are included in the reclamation cost estimate. Monitoring costs for a longer period of time are included in the Phoenix Project Long-term Contingency Fund (Battle Mountain Gold Company 2001).

9-7 BMG's state air quality operating permit and proposed Fugitive Dust Control Plan (BMG 2000b) call for appropriate management of fugitive dust emissions from all facilities, including the tailings facility. Concurrent reclamation would minimize fugitive dust from the tailings facility by placement of waste rock or other suitable cap material and establishment of revegetation. During the closure and reclamation period, fugitive dust monitoring required in the permit would determine if air quality standards are exceeded and whether additional measures are necessary to control such emissions. The reclamation cost estimate provided to the BLM and NDEP contains costs for capping and revegetation of the facility.

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9-8 Both the Draft EIS (page 2-45) and the Phoenix Project Plan of Operations (page 6-19) misstated the rinsing requirements as being 1 ton of fresh water per ton of ore rather than 1 ton of recycled barren solution per ton of ore. Results of column testing conducted at McClelland Laboratories in 1994 on heap material from the Santa Fe Mine and subsequent rinsing of the actual heap, both using recycled barren solution, support this rinse solution rate using recycled barren solution. The reclamation bond estimate provided in the Plan of Operations currently includes costs for rinsing the heap with 1 ton of recycled barren solution per ton of ore. Based on the lab testing and actual field rinsing referenced above, that estimate is sufficient. The text in the Final EIS and Plan of Operations has been corrected to state that heap material will be rinsed with 1 ton of recycled barren solution per ton of ore. Heap closure options may be reevaluated when a final closure plan is developed for the proposed heap.

Although not relevant to the bonding calculations, it should be noted that the last leach-grade ore would be deposited on the heap in year 16 of the project. This leaves 12 years to complete leaching and rinsing of the heap while the mill circuit is still operating. This provides the opportunity to conduct a fresh water rinse, if deemed appropriate, and to consume the rinsate in the mill circuit. Following heap reclamation and closure, this schedule may even allow for draindown from the heap to be consumed in the mill circuit for several years.

9-9 With regard to existing revegetation (Reona and Copper Basin reclamation), please refer to the response to comment 3-3. With regard to site-specific release criteria, these criteria are addressed in Section 2.4.21.16 in combination with the federal and state required revegetation success evaluation guidelines. Please also refer to the response to comment 3-10.